

REMARKS

Claims 1, 2 , 4, 5, 22 and 23 are pending. Claims 1, 2 and 4 are currently amended. Claim 3 has been canceled. Claims 22 and 23 are new.

Claim Rejections

Claims 2 and 3 were rejected under 35 U.S.C. §112 because it was unclear whether the phrases “gate electrode,” “high concentration source layer,” “high concentration drain layer” and “body layer” recited in those claims referred to the similarly named elements recited in claim 1. Applicants have amended claims 1 and 2 and canceled claim 3. Applicants respectfully submit that the attached amendments overcome the §112 rejections and clarify the scope of the pending claims. Applicants, therefore, request withdrawal of the §112 rejections.

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,567,629 (Kubo). Claim 1 has been amended to recite that the body layer is in direct contact with the source layer. That feature is shown, for example, in FIG. 12A where the body layer 18A is in direct contact with the high concentration source region 15A. By implementing the features recited in claim 1 the size of a semiconductor device may be advantageously reduced.

The Kubo patent does not disclose that feature. Instead, the semiconductor device disclosed in the Kubo patent includes a buried region 1C that is not in direct contact with the source region 5. (*See* FIG. 2B) Indeed, the buried region 1C is separated from the source region 5 by semiconductor layer 1B.

Claim 1 should be allowable for at least the foregoing reasons.

Claims 2 and 4 were rejected under 35 U.S.C. §103(a) as being obvious over the Kubo patent in view of U.S. Patent No. 5,926,712 (Chen et al.).

Claims 2 and 4 depend from claim 1, which recites a body layer of one conductive type in direct contact with a source layer of a reverse conductive type. The body layer is formed only under the gate electrode. None of the cited references, either alone or in combination, discloses

or suggests that feature. The Kubo patent fails to disclose or suggest that feature because of the reasons discussed above with reference to claim 1.

Nor does the Chen et al. patent disclose or suggest that feature. Instead, the Chen et al. patent merely discloses a semiconductor device that includes first (n-) source/drain regions 216 in contact with third (n+) source/drain regions 219. (*See FIGs. 2(c) and 2(f)*) The (n-) material of the first source/drain regions 216 and the (n+) material of the third source/drain regions 219 are not “reverse conductive types” of material, as recited in claim 1. Moreover, neither the first (n-) source/drain regions 216 nor the third (n+) source/drain regions 219 are formed only under the gate structure 215. (*See FIG. 2(b) and 2(f)*) Both of those regions 216, 219 are formed partially beneath the gate structure 215, but also extend beyond the area under the gate structure 215.

Claims 2 and 4 should be allowable for at least the foregoing reasons.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Kubo patent in view of U.S. Patent No. 5,844,272 (Soderbärg et al.).

Claim 5 depends from claim 1, which recites a body layer of one conductive type in direct contact with a source layer of a reverse conductive type. The body layer is formed only under the gate electrode. None of the cited references, either alone or in combination, discloses or suggests that feature. The Kubo patent fails to disclose or suggest that feature because of the reasons discussed above with reference to claim 1.

Nor does the Soderbärg et al. patent disclose or suggest that feature. Instead, the Soderbärg et al. patent merely discloses a semiconductor component that includes a p-doped body 22 next to an (n-) channel 21. (*See FIG. 3*) Neither the p-doped body 22 nor the (n-) channel 21 are formed only under a gate electrode. Instead, both (22 and 21) are formed partially below extended gate layer 30 and extend to areas beyond the area under extended gate layer 30. (*See FIG. 3*)

Claim 5 should be allowable for at least the foregoing reasons.

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Drawings

The Office Action indicated that FIG. 14 should be designated by a legend such as "Prior Art" because only that which is old is illustrated. Applicants have added the legend "Prior Art" to FIG. 14.

The Office Action also objected to FIG. 12 because certain reference numerals (*e.g.* 51 and 52) were mentioned in the description, but were not included in that figure. Applicants note that the description incorrectly indicated that those reference figures were in FIG. 12. Those reference numerals actually are shown in FIG. 14. Applicants have amended the specification to reference the correct figure.

Applicants request withdrawal of the FIG. 12 drawing objections.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

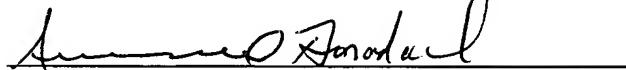
Enclosed is a \$120.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

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Respectfully submitted,

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- Annotated Sheet Showing Change(s)

FIG. 14

ADD
PRIOR ART

